USAID Expectations for Food Aid Storage and Warehouse Good Management Practice[1]

United Agency for International Development -USAID
Office of Food For Peace, DCHA/FFP
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[1] These guidelines were conceived as expectation reference for the management of food aid commodities throughout the supply chain with focus on warehouses and humanitarian food aid storage facilities at distribution sites. The general principles for these guidelines were drawn from the following references:

1. **FDA 2015 Food Code**: http://www.fda.gov/Food/GuidanceRegulation/RetailFoodProtection/FoodCode/ucm374275.htm
2. **2015 U.S. Small Business Guidelines to FDA**: http://www.fda.gov/downloads/ForIndustry/SmallBusinessAssistance/SmallBusinessGuidetoFDA/UCM081030.pdf
3. **2003 Codex International Code of Practice of Food Hygiene. CAC/RCP 1-1969, Rev. 4-2003.** http://www.mhlw.go.jp/english/topics/importedfoods/guideline/dl/04.pdf

I. Objective and Scope

The United States Agency for International Development USAID invests and promotes the use of food commodities that meet the diverse needs of an entire population, from a nursing mother to an acutely malnourished child, as a means to fight poverty and hunger in the world. In order to enable food aid programming as an effective nutrition delivery means to these populations, The Agency ensures that the quality and safety of these commodities meet or exceed the requirements of these target groups, some of whom might already have their immune system compromised. The requirements given in these expectations are intended to assist warehousing, final distribution storing facilities, and handling partners to meet this objective by identifying those resources which will help protect product safety and quality, prevent food contamination, infestation, recall and waste. In summary, the application of these expectations and any other resource referenced in this document, contain the basic elements needed to assure effective management of Food Safety, Quality and the protection of food aid products. These expectations and associated documents do not alter, override or replace any international or local requirements given in government regulations, which must also be met.

The scope of these expectations include all USAID contracted warehouses and facilities that store USAID food aid products, including suppliers and any food storage along the supply chain.

II. Quality Management System

The warehouse (WH) operator shall establish, document, implement and maintain a quality management system, as a means of assuring that USAID food aid products or materials are handled, stored and transported in conformance with specified requirements (as agreed in the contract), and continually improve its effectiveness in accordance with the requirements given in this document. This includes compliance with these requirements, USAID commodity specification and any applicable regulatory requirements.

2.1. **Elements of WH Quality Management System.** The quality management system documentation shall include:

- **a.** Documented procedures for the warehousing, handling, storage, and transportation of USAID food aid product
- **b.** Documented procedures for the control of documents and records related to USAID food aid products including outsourced services like pest control, fumigation service, storage, cleaning, and others.
- **c.** Procedures and documents shall be accurate, reviewed, dated, approved by management and distribution controlled. A review shall be conducted minimum annually. Superseded documents shall be archived and readily retrievable where appropriate.

d. Documentation shall be up-to-date and available to staff at all locations to enable them to perform their role in the quality system.

III. Management Responsibility

3.1. **Top management**, or the person or group of people who direct or control the organization at the highest level, shall provide evidence of its commitment to the implementation of USAID food aid warehouse, storage and handling quality expectations. A member of site management shall have the responsibility and authority to assure that the quality management system is established, implemented and maintained.

3.2. **Responsibility, Authority and Communication**. The responsibility, authority and the interrelation of personnel, who manage, perform and verify work affecting compliance with USAID food aid specified requirements shall be defined and documented. This information must be included in policies, procedures and job descriptions, etc.

3.3. **Emergency Situation Management**. Every warehouse / service provider shall establish, document, implement and maintain programs for the identification, communication and management of potential or actual emergency situations affecting USAID food aid products. The programs shall assure a rapid, accurate and appropriate response to issues which may arise. Each facility shall have a person with nominated responsibility for Emergency Situations. The facility nominee shall have established links with the USAID OAA and FFP Food Technology representative and / or local/regional USAID Mission.

IV. Good Warehousing Practices (GWP)

Good Manufacturing Practices shall be established to ensure that products are stored and handled under sanitary conditions that guarantee that product will maintain the status of fit for human consumption, for the entire shelf life period.

4.1. Employee Personal Practices

a) The Warehouse Operator shall assure that all personnel, visitors and contractors follow the GWP
b) Product Tampering: Any intentional act by an employee which could render a USAID product, or package unsafe for consumers will result in termination and any legal procedures that apply
c) Employees who observe any intentional act which might compromise the safety of any ingredient, product or package are required to immediately report this activity to their supervisor or manager.
d) Personal Hygiene: Employees must maintain a high degree of personal cleanliness; Controls shall be in place to ensure that employees wash their hands when necessary, e.g. prior to returning to work from breaks or as they become soiled.
e) Hot and cold water, soap/sanitizer, hand drying facilities and a waste bin must be available at hand washing and cleaning stations
f) Prohibited Acts: To help prevent product contamination, the following actions are not allowed in Product / material handling and storage areas:

- Eating or drinking, chewing gum or tobacco, smoking, holding objects in the mouth (e.g. toothpicks), and spitting. If smoking is permitted in a facility it is only allowed in designated areas
- Littering and other poor housekeeping practices are not allowed. All refuse must be placed in properly identified containers.
- Garbage facilities / compactors shall be adequately covered (e.g. the food source that attracts birds to warehouses/storage areas is generally around the dumpster or compactor, or along the truck docks.)
- Effective sanitation programs that eliminate these food sources must be maintained.
- Lunches must be stored in designated areas and must be completely enclosed.
- Personal lockers must be maintained clean, free of trash and soiled clothing.
- Products / Materials must not be stored immediately adjacent to containers for waste or non-product items (e.g. cleaning compounds).

g) Packaging Storage Practices: Packaging materials in full or partial quantities must be adequately protected and stored in a sanitary manner. Identification and traceability must be maintained. All items should be stored to avoid direct contact with the floor (e.g. on pallets, slip sheets, or racks). Sitting or standing on product shipping cases is not acceptable. Over stacking of product must be avoided.

4.2.Receiving, Handling, Storage and Shipping Practices

h) Extraneous Matter Controls: Glass and brittle materials including hard plastic components and equipment should be avoided in product handling / storage areas where possible. If their use is necessary a glass and hard plastic inspection program and breakage procedure shall be in place and documented.

i) Pallets must be stored in areas that are free of moisture, dirt and litter and free of bird, insect or rodent contamination.

j) Pallets should not be stored outside (i.e. exterior to the building). If pallets are stored outside they must be checked before entering the warehouse.

k) A pallet inspection program shall be in place to verify that pallets are suitable for use (e.g. clean, dry, free from mold, off- odors and infestation, no broken wood or loose nails). The program shall cover: New pallets, Incoming goods pallets, Shipped product pallets, Waste / disposable pallets

l) Soiled and dusty exteriors of cartons or other product containers shall be cleaned before they are conveyed into the warehouse, to implementing partners or end users

m) Broken or spilled product shall be cleaned up in a timely manner

n) Racking and storage areas (e.g. staging areas, bins) must be adequately spaced from the walls (minimum 12 inches / 30 cm) to allow for inspection of areas for cleanliness, insect or rodent activity. Additionally, where rodent control devices are placed there should be an 18 inch/45 cm gap to allow for inspection. Where this is not possible, alternative means of access must be demonstrated.

o) Fork lift trucks (FLT) shall be in good repair, clean, free from leaks. FTL utilized inside a facility shall preferably be electric powered. Liquid Petroleum Gas (LPG)(Propane) is acceptable. Gasoline or diesel powered FTL only allowed to be used outside facility
p) FLT batteries shall be stored in a designated area in such a way as to avoid risk of material or product contamination. New technology batteries, which have a lower risk level, may require less strict segregation.
q) All materials and products shall be properly identified and labelled

4.3.Grounds

a) Recyclable Materials: Recyclable materials collection areas must be kept clean and neat. Materials shall be removed at a frequency to minimize pest harborage. Appropriate signage must be posted to identify the area.
b) Equipment and Materials Storage: Exterior storage of equipment and materials -- including, idle equipment, contractor supplies, or other items -- should be minimized through routine inventory assessments and neatly stored off the ground and away from the building.

c) Doors and gates (e.g. cargo doors) shall not be left open when not in use.
d) Vegetation and grass close to the WH need to be cut regularly and managed.

4.4.Competence, Awareness and Training

a) Documented procedures shall be established and maintained for employee selection and hiring, and the training of all personnel, including temporary, consultants, or contractors, performing activities affecting compliance with USAID specified requirements. Each facility must determine training needs and ensure employees receive appropriate training from qualified trainers. Employee understanding of the training shall be assessed by defined means (e.g. verbal test of understanding) to assure that training objectives are met. Records of all training shall be maintained.
b) Each facility shall assure that all employees handling USAID product receive appropriate training in:

- The quality system required to meet USAID Warehousing, Handling, Storage, Re-packing and Transportation Quality Requirements, USAID specifications and regulatory requirements.
- Good Warehousing Practices (GWP) (for all employees including temporary and
- seasonal)
- Topics necessary to perform their function satisfactorily e.g. Forklift driving, incoming materials inspection, recording of lot numbers for traceability, etc.
- Employee illnesses and control of communicable diseases.
- Induction training sessions must be organized for temporary personnel as needed (according to personnel turnover)

- Visitors entering production areas shall also be trained in relevant personal and food safety practices.

c) Refresher training shall be carried out at appropriate intervals (best practice: annually)

4.5.Infrastructure

In order to maintain a safe working environment, it is important that infra-structure and equipment are designed to make it easy to establish and maintain sanitary conditions. When commissioning new production or storage facilities USAID or its implementing partners should be contacted, who can arrange for appropriate guidance to be provided.

a) Facility Design: The design and construction of the building, including utility fixtures shall prevent and must not present a potential contamination source to the products produced or handled. The facility shall be of sound construction and free from leaks.
b) The internal and external structure shall be free of cracks, holes, openings, or any other areas that would allow harbourage or entry of pests. (Guidance: a mouse can enter through a gap of less than 10mm)
c) Supply conduits (air, water, electricity) shall be installed in such a way (e.g. under the floor) that they do not provide a cleaning/foreign matter/pest control issue.
d) The structure should be free of potential sources of contamination (e.g. flaking paint, condensate from overhead pipes or structures, exhaust fans, grease, fraying insulation, undesirable molds or dirt).
e) Floors, walls, ceilings, overheads and drains shall be cleanable and constructed to resist deterioration from product or cleaning chemicals.
f) All light fixtures in finished product and/or raw material storage areas shall be shielded or have plastic coated bulbs to prevent contamination in case of breakage. Where this is impractical a documented glass breakage control procedure shall be in place and followed.
g) All exterior doors must be kept closed and must form an adequate seal when closed. Selfclosing doors are preferred. Loading docks shall be protected to prevent pest entry. Entrance of air shall be limited by vestibules, air curtains as appropriate.
h) Doors, windows and other openings shall prevent access to unauthorized people.
i) Access to utilities (e.g. water supply, heating, ventilation) shall be controlled to prevent unauthorized access.
j) Where wet cleaning is necessary, floors shall be adequately designed to prevent standing water. If applicable, all new floor drain installations shall be trapped and vented to prevent sewer gas entry, and must be accessible and cleanable. Existing floor drains which are not trapped and vented shall be sealed, or a plan made for their replacement.
k) Hand washing and restroom facilities shall be appropriately designed and maintained.
l) Grounds shall be maintained to prevent risk of pest harbourage, and be free from idle machinery and equipment, litter, debris and odour.
m) The façade or installations shall not be a harbourage or nesting place for birds or other pests.

n) During construction, adequate controls shall be in place to prevent contamination and ensure adequate sanitation (no dust).
o) The facility must be capable of providing appropriate temperature and humidity requirements, if controlled conditions are required, for storage or transport in order to meet USAID specifications for the products concerned. In addition, provision must be made for segregation of products susceptible (i.e. HEB, RUF, SCP) to odor migration from other products with strong aromas (i.e. fish).

4.6.Sanitation Controls

a) The facility shall have a documented sanitation/housekeeping program in place. The program shall assure the sustainable cleanliness of storage facilities, product handling areas and all transportation equipment and vehicles, as the nature of the product requires and with consideration for peak periods
b) The building (ceilings, overheads, walls and floors) and transportation equipment (containers, etc.) shall be free from dust, debris, insect webbing, mould growth, etc.
c) Sanitation procedures, schedules and records of cleaning shall be documented.
d) A system for verifying the effectiveness of the sanitation program of the entire facility and the transportation vehicles shall be in place.
e) Precautions shall be taken for protection of products during cleaning activities.
f) Cleaning chemicals, equipment and materials used shall have approved specifications. All cleaning, sanitizing and disinfecting products shall be suitable for use in a food handling environment in order to minimize odour.
g) Hazardous materials or chemicals (e.g. pesticides, cleaning materials, disinfectants) shall be secured, segregated from USAID product storage areas and access restricted to allow use by designated employees only.
h) Proper tools must be utilized to prevent extraneous matter contamination of the product (e.g. separate tools for floors, drains).
i) The risk of allergen cross contamination due to broken or spilt product / material of nearby product need to be assessed. In case of risk identified an effective allergen clean up procedure need to be implemented.

4.7.Pest Control

a) A documented pest control program and practices shall be in place to effectively prevent pest activity in the facility and grounds.
b) A complete and accurate map of installed traps, glue boards, insect-electrocutors, pheromone traps and external bait stations shall be available. Bait stations shall be of solid construction and tamper resistant. External stations shall be secured (e.g. linked to the wall by a chain, bolted to the floor using a wire retainer).
c) Pest Control Inspections shall be conducted and recorded. Listed below is the appropriate frequency for inspections based on activity.

Table 1. Flying insects Control

Systems	Min Inspection Frequency	Cleaning Frequency
Insect light traps	Monthly (Can be adjusted seasonally with written justifications)	Monthly
Pheromone traps	Bi-weekly (Where used) ((Can be adjusted seasonally with written justifications)	Replace as needed.

Table 2. Rodent Trap -Interior

Control	Definition	Approximate Spacing	Inspection
A (high)	Required for all facilities until a 12 month history is developed	25 feet / 7.5 m for process plants 50 feet / 15 m for finished product storage & shipping facilities and on each side of exterior doors	Weekly
B (moderate)	12 consecutive months of zero or infrequent rodent activity	50 feet / 15 m and on each side of exterior doors	Weekly
C (low)	24 consecutive months of zero or infrequent rodent activity	On sides of exterior doors only	Weekly

Table 3. Rodent Trap -Exterior

Control	Definition	Approximate Spacing	Inspection
A (high)	Required for all facilities until a 12 month history is developed (see exclusions above)	50 feet /15 m	Bi-Weekly
B (moderate)	12 consecutive months of zero or infrequent rodent activity in bait boxes	100 feet / 30m	Monthly
C (low)	24 consecutive months of zero or infrequent rodent activity	150 feet / 45m	Monthly

d) Documentation of pest control checks shall include all necessary information, e.g. pest control operator, date of check, pesticide usage (type, amount of pesticide, application, lot codes, location, targeted pest and time of treatment), result of inspection and recommendations.
e) If pest activity or deficiencies in the pest control program are noted, corrective actions shall be taken and controls increased appropriately. All corrective actions shall be recorded. (See table above)
f) Pest activity data must be analyzed and documented to show trends in activity (e.g. insect light traps, pheromone traps and interior rodent traps)
g) Manual or electronic (e.g. Rapid Trax or Pro-Track) trending of activity is required at a minimum by area. In the case where increased activity is being detected, the trending shall be completed by trap in the specific area where increased detections are being found. This increased level of trending should continue until low to no detections are again established.
h) Pest management contractors must be appropriately licensed by the relevant local authority, and maintenance of that license shall be a condition of contract. Certified pest control contractors or personnel with equivalent training shall perform pest control activity.
i) Insurance requirements shall be included in the contract. A copy of the contractor's liability coverage shall be maintained and available at the facility. In cases where liability insurance is not available, the use of contracted pest management services shall be approved by USAID/OAA.
j) Pesticide use and application shall be strictly controlled and in accordance with the label and lot numbers shall be documented on usage records to assure traceability.
k) All pesticide labels and Material Safety Data Sheets (MSDS) or equivalent material addressing safety precautions shall be available.
l) It is the responsibility of the Operator to assure that any pesticide, including fumigation chemicals, used in direct contact with any packaged food product or ingredient is applied in accordance with label directions and is approved for the purpose intended.
m) In general, pesticides should not be stored inside the warehouse areas. If internal pesticides storage is necessary, they shall be stored in a dedicated (only pesticides), lockable area, which is ventilated, signed and inventoried monthly.
n) Residual insecticides may never be applied as a fog or aerosol.
o) Rodenticides used must be in block form for use outside of the facility only. Rodenticide granulates; paste, pellets or powders are NEVER permitted.
p) In the rare case that rodent activity requires use of rodenticides inside the facility, secure, tamper resistant traps or bait stations must be used. Rodenticides are generally not permitted inside facilities because poisoned rodents can hide and die away from the bait station. Rodents can also transport poisonous bait within the facilities.
q) All ingredients, equipment, and supplies received must be inspected upon receipt for rodent excreta or any bite signs on the containers to ensure that rodents do not enter the facility via incoming loads.
r) All openings (walls, roof) including any openings used for ventilation must be screened to prevent insect or rodent ingress.
s) Only approved pesticides shall be used in manufacturing and distribution facilities. A pesticide is considered approved if all of the following criteria are met.

- Compliance with all local laws.
- Application methods follow label instructions.
- Suitable for use in a food manufacturing or storage warehouse (label).
- Further information of pesticides can be found in the following website:

The Pesticide Action Network (PAN) http://www.pesticideinfo.org/Search_Products.jsp It is a database which serves to cross-check on compliance and pesticide references. The search should first be performed utilizing the pesticide's active ingredient. If there are no results the search should be done by the products trade name, or if applicable the products EPA registration number.

t) In the event a pesticide being considered for use does not meet the criteria, or major pesticide application (e.g. fumigation) in the warehouse area where USAID products are stored, it must be notified and confirmed in advance to The Agency contact person.

> **Insert 1**
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> **Warehouse Fumigation:** The most effective way of eliminating insects is by fumigation. Fumigation services should be rendered by a reputable licensed company on a regular basis at a minimum of at least once per month. Data on justification of fumigation schedule must be produced. Improper use of some fumigants may result in an explosion or fire or in ill effects to food handlers from exposure to the chemicals used. Before contracting with a fumigating company, the firm should be required to show evidence of public liability, property and fire insurance, and workmen's compensation.

V. Types of Storage Facilities

Generally there are three types of storage facilities to assure proper protection of USAIDA foods. The three types of facilities are dry, refrigerated, and freezer storage. The allocation notice will include the temperature requirement for each food item.

5.1.Dry Storage Areas

The majority of USAID foods can be adequately warehoused in dry storage areas. The desirable temperature to maintain in dry storage areas is 50° to 70° Fahrenheit (F). In hot humid climates where temperatures of 50° F to 70° F cannot be maintained, it may be necessary to install air-conditioning to keep the temperature from going above 70° F. Temperatures above 70° F in dry storage areas may result in increased insect activity in grain products and bulging and swelling of canned goods. In climates where the temperatures may drop below freezing, a heating system may be necessary to keep canned goods from freezing. Temperature below 32° F can result in the freezing of canned goods and render the food unfit for human consumption.

5.2.Refrigerated Storage Areas

Some USAID foods for emergency conditions, such as cheese and fresh produce, require refrigerated storage. However, the storage life of many other foods such as grain products and dried fruits is greatly prolonged by the use of the refrigerated storage. The desirable temperature to maintain in refrigerated storage is 36° F to 40° F. Temperatures above 50° F can result in deterioration such as rancidity, loss of flavor, and loss of texture. Temperatures below 32° F can result in clumping of products and loss of flavor.

5.3.Freezer Storage Areas

Very rarely USDA foods will require freezer storage. The required temperature for freezer storage is 0° F and below. Temperatures above 0° F can result in butter becoming rancid and off flavor, and also result in oil seepage from the product.

5.4. Temperature Controls

Wherever USAID foods are stored, reliable thermometers must be installed to assure that proper temperatures are maintained. Temperature readings must be taken and recorded at least daily both outside and inside refrigerated and freezer storage, and more often if there is difficulty in maintaining the desired temperature.

Annex 1

USAID/FFP Food Aid Storage and Handling Practice

A routine visit questionnaire

USAID/FFP Food Aid Storage and Handling Practice

A routine visit questionnaire

Office of Food For Peace
Washington DC

February 22 2018

Purpose: This questionnaire is conceived only for routine visits to food assistance storage and food handling sites (i.e. health centers, refugee camps, community warehouses, etc.) with the main aim to assess general good food storage and handling practices. For more comprehensive evaluations, please refer to USAID/FFP Warehouse management expectation document or contact directly FFP Food Technologist.

Facility:_____ **Program/Project:_____** **USAID Implementing Partner:_____** **USAID/FFP Staff:_____** **Visited Site PoC: _____**		
No.	**Areas and Description**	**Annotations/ Questions**
1	**Premise/Infrastructure**	1. Is the premise apt for food storage, in terms of sound construction and free from leaks, cracks, holes, openings, or any other areas that would allow harbourage or entry of pests (Guidance: a mouse can enter through a gap of less than 10mm)? 2. The structure should be free of potential sources of contamination (e.g. flaking paint, condensate from overhead pipes or structures, exhaust fans, grease, fraying insulation, undesirable molds or dirt). 3. Floors, walls, ceilings, overheads and drains shall be cleanable and constructed to resist deterioration from product or cleaning chemicals. 4. All exterior doors must be kept closed and must form an adequate seal when closed. 5. Doors, windows and other openings shall prevent access to unauthorized people. 6. Hand washing and restroom facilities shall be appropriately designed and maintained. 7. Grounds shall be maintained to prevent risk of pest harborage, and be free from idle machinery and equipment, litter, debris and odor. 8. The facility must be capable of providing appropriate temperature and humidity requirements, if controlled conditions are required, for storage or transport in order to meet USAID specifications for the products concerned. In addition, provision must be made for segregation of products susceptible (i.e. HEB, RUF, SCP) to odor migration from other products with strong aromas (i.e. fish).
		1. The facility shall have a documented sanitation/housekeeping program in place. The program shall assure the sustainable cleanliness of storage facilities, product handling areas and all transportation equipment and vehicles, as the nature of the product

2	**Sanitation Controls**	requires and with consideration for peak periods. 2. Cleaning chemicals, equipment and materials used shall have approved specifications. All cleaning, sanitizing and disinfecting products shall be suitable for use in a food handling environment in order to minimize odor. 3. Hazardous materials or chemicals (e.g. pesticides, cleaning materials, disinfectants) shall be secured, segregated from USAID product storage areas and access restricted to allow use by designated employees only.
3	**Pest Control**	1. A documented pest control program and practices shall be in place to effectively prevent pest activity in the facility and grounds. 2. A complete and accurate map of installed traps, glue boards, insect-electrocutors, pheromone traps and external bait stations shall be available. Bait stations shall be of solid construction and tamper resistant. External stations shall be secured (e.g. linked to the wall by a chain, bolted to the floor using a wire retainer). 3. Pest Control Inspections shall be conducted and recorded. Listed below is the appropriate frequency for inspections based on activity. 4. Pest management contractors must be appropriately licensed by the relevant local authority, and maintenance of that license shall be a condition of contract. Certified pest control contractors or personnel with equivalent training shall perform pest control activity. 5. All openings (walls, roof) including any openings used for ventilation must be screened to prevent insect or rodent ingress.
4	**Personnel and Training**	1. Is there a staff in charge of the food storage facility? If so, does this person have minimum training on food handling? Has USAID partner/NGO been in contact with the internal staff to discuss good food handling practices? 2. Does the food storage supervisor have record related to pest and rodent activities? Fumigation and sanitation control? 3. Is there an ongoing communication between USAID partners/NGO and the food storage site (i.e. health center, refugee camp warehouse, distribution point, etc.)?
5	**Any other food safety and quality observations**	Some other spontaneous actions can also provide a wealth of information such as: taking a walk in the facility, take pictures if allowed, informally chat with folks who handle the food, if possible chat with end user, open a package and observe for off odour, flavor, appearance, and packaging defects and so on.